DOMINIK JEURISSEN

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SUMMARY

I build and evaluate LLM agents for complex games, from a NetHack agent to an on-device assistant inside Total War, backed by 3 years as a professional software engineer. Looking for research engineer or scientist roles on agents, RL environments and evaluation.

Availability: From April 2027 • German citizen • Eligible for the UK Graduate visa

EXPERIENCE

Trainee Machine Learning Scientist (Internship) Mar 2025 – Mar 2026
Creative Assembly, Horsham, UK

- Main contributor on Creative Assembly's side to a joint R&D project with NVIDIA.
- Project: an on-device LLM assistant for *Total War: Pharaoh* that reads live game state.
- Built the game-data pipeline and the initial RAG prototypes.
- Co-developed the C++ integration into the proprietary game engine.
- First author of the resulting IEEE CoG 2026 paper; project featured by NVIDIA ACE.

PhD Researcher Sep 2022 – present
Queen Mary University of London, UK

- Built NetPlay, the first zero-shot LLM agent for NetHack (open source, first-author CoG 2024).
- Built a sandboxed Docker harness for evaluating coding agents on NetHack and Caves of Qud.
- Ran 18 open- vs. closed-book campaigns to separate memorised game knowledge from reasoning.
- PhD co-funded by Creative Assembly through the IGGI doctoral training centre.

Research Intern Jul 2020 – Jul 2021
Game AI Research Group, Queen Mary University of London, UK

- Co-developed Stratega, a C++ framework for researching planning agents in strategy games.
- Developed real-time subgoal detection for Monte Carlo Tree Search (MSc thesis, CoG 2021).

Software Engineer Sep 2016 – Sep 2019
INFORM GmbH, Aachen, Germany

- Developed the add*ONE product using C#, C++ and SQL, alongside my BSc.
- Contributed to a new web application using Angular and TypeScript.

SKILLS

Research	LLM Agents, RAG, Agent Evaluation, Reinforcement Learning, MCTS
Programming	Python, C++, C#, SQL, TypeScript
Tools	PyTorch, Docker, Linux, Git
Languages	German (native), English (fluent)

PUBLICATIONS

First author

[1] **D. Jeurissen**, J.-E. Lee, R. Rangan, and D. Çakmak. "A Game-Integrated On-Device Gaming Assistant". *2026 IEEE Conference on Games (CoG)*. 2026, pp. 1–4. DOI: 10.1109/CoG67430.2026.11778793.

[2] **D. Jeurissen**, D. Perez-Liebana, J. Gow, D. Çakmak, and J. Kwan. "Playing NetHack with LLMs: Potential & Limitations as Zero-Shot Agents". *2024 IEEE Conference on Games (CoG)*. 2024, pp. 1–8. DOI: 10.1109/CoG60054.2024.10645630. Code: GitHub.

[3] **D. Jeurissen**, M. H. M. Winands, C. F. Sironi, and D. Perez-Liebana. "Automatic Goal Discovery in Subgoal Monte Carlo Tree Search". *2021 IEEE Conference on Games (CoG)*. 2021, pp. 1–4. DOI: 10.1109/CoG52621.2021.9619069.

Co-author

[4] R. Sasso, M. Conserva, **D. Jeurissen**, and P. Rauber. "Foundation Models as World Models: A Foundational Study in Text-Based GridWorlds". *Workshop on the Foundations of Reasoning in Language Models (FoRLM), NeurIPS 2025*. 2025. arXiv: 2509.15915.

[5] M. Balla, G. E. M. Long, **D. Jeurissen**, J. Goodman, R. D. Gaina, and D. Perez-Liebana. "PyTAG: Challenges and Opportunities for Reinforcement Learning in Tabletop Games". *2023 IEEE Conference on Games (CoG)*. 2023. DOI: 10.1109/CoG57401.2023.10333223.

[6] A. Dockhorn, J. Hurtado-Grueso, **D. Jeurissen**, L. Xu, and D. Perez-Liebana. "Portfolio Search and Optimization for General Strategy Game-Playing". *2021 IEEE Congress on Evolutionary Computation (CEC)*. 2021, pp. 2085–2092. DOI: 10.1109/CEC45853.2021.9504824. **Best Paper Runner-Up**.

[7] D. Perez-Liebana, C. Guerrero-Romero, A. Dockhorn, L. Xu, J. Hurtado, and **D. Jeurissen**. "Generating Diverse and Competitive Play-Styles for Strategy Games". *2021 IEEE Conference on Games (CoG)*. 2021, pp. 1–8. DOI: 10.1109/CoG52621.2021.9619094.

[8] A. Dockhorn, J. Hurtado-Grueso, **D. Jeurissen**, and D. Perez-Liebana. "Stratega – A General Strategy Games Framework". *AIIDE-20 Workshop on Artificial Intelligence for Strategy Games*. 2020.

EDUCATION

Ph.D. Computer Science, Queen Mary University of London — 2022 – 2027 (expected)
M.Sc. Artificial Intelligence, Cum Laude, Maastricht University — 2019 – 2021
B.Sc. Applied Mathematics and Informatics, FH Aachen — 2016 – 2019

TALKS AND AWARDS

IGGI Conference 2024 – *Playing Games with LLMs* — Sep 2024
Conference on Games 2024 – *Playing NetHack with LLMs* — Aug 2024
Develop 2024 – *LLM Agents for QA* — Jul 2024
Best Paper Runner-Up, IEEE CEC 2021